

BUREAU OF ENVIRONMENT CONFERENCE REPORT

SUBJECT: NHDOT Monthly Natural Resource Agency Coordination Meeting

DATE OF CONFERENCE: April 15, 2020

LOCATION OF CONFERENCE: John O. Morton Building

ATTENDED BY:

NHDOT

Sarah Large
Ron Crickard
Andrew O’Sullivan
Meli Dube
Chris Carucci
Russ St. Pierre
Samantha Fifield
Anthony Weatherbee
Rebecca Martin
Jason Tremblay
David Scott
Marc Laurin
Phile Miles
Sandra Newman
Bill Saffian
Chelsey Noyes

ACOE

Rick Kristoff

EPA

Jeannie Brochi
Beth Alafat

**Federal Highway
Administration**

Jaimie Sikora

NHDES

Lori Sommer
Karl Benedict

NH Fish & Game

Carol Henderson

Natural Heritage Bureau

Amy Lamb

The Nature Conservancy

Pete Steckler

**Consultants/Public
Participants**

Peter Walker
Julie Whitmore
Kimberly Peace
Joanne Theriault
Sean James
Marge Badois

PRESENTATIONS/ PROJECTS REVIEWED THIS MONTH: *(minutes on subsequent pages)*

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(When viewing these minutes online, click on a project to zoom to the minutes for that project.)

NOTES ON CONFERENCE:**Meeting Minutes**

Finalized the February 19, 2020 meeting minutes.

Stoddard, #42708

Chris Carucci, NHDOT Bureau of Highway Design, provided a detailed explanation of the proposed project including purpose and need, environmental impacts and alternatives analysis. The existing crossing was originally constructed in 1963 and is comprised of twin 44" high by 72" wide by 92' long (102' long with mitered ends) arch shaped corrugated metal pipes carrying an unnamed stream under NH Route 9 approximately 1000' south of the intersection of NH Route 123 in the Town of Stoddard. The crossing is a Tier 3 stream crossing with a drainage area of 1.13 square miles. The Streamstats Q100 is 296 cubic feet per second (cfs). The pipes maintain a backwater condition and are not perched. The crossing is located on a sharp curve in the roadway, with a pavement cross slope of 8%. Fill height is 10' on the inlet side and 13' on the outlet side.

The purpose of this project is to address safety concerns at the crossing. The need for this is demonstrated by the poor condition of the pipes, which have severe corrosion and perforations along the lower sides. Though the original shape of both culverts is still intact, the backfill material of the roadway is visible and is falling through the perforations in the pipes into stream. The size, type, age, and condition of the pipes are very similar to another culvert under NH 107 in Northwood that failed in August of 2019, further demonstrating the risk associated with the poor condition of the pipes. NH Route 9 is a Tier 2 roadway and is one of the primary high capacity routes connecting Concord to Keene. The 2018 traffic volume was 7,675 vehicles per day with a significant portion being trucks and regional commercial traffic.

NHDOT Maintenance District 4 reports this crossing has no history of flooding, but there is beaver activity. A phone conversation with the adjacent owner (Hayes Auto) confirms no history of flooding of Route 9 or the owner's property, which is about 5' lower than the Route 9 pavement. There is no bypass mechanism other than overtopping of Route 9. There is a large permanently ponded area immediately upstream of the crossing inlet, with a significant amount of storage. Farther upstream, the stream is a Type E, with a shallow meandering channel and wide connected floodplain, which also contributes to the available storage. Downstream of the crossing, there is a short section of incised channel, about 16' wide x 75' long. The stream returns to Type E morphology downstream of the incised section. The next downstream crossing is 10' span x 5' high bridge carrying the brook under NH 123 (Bridge #161/050). The NH Aquatic Restoration Mapper tool indicates this crossing is undersized and flooding occurs in the vicinity annually. The FEMA regulated floodplain begins just downstream of NH 123 but there are no mapped floodplains or special flood hazard areas at the crossing.

A detailed stream assessment was not performed for this crossing due to the presence of a large ponded area at the inlet of the culvert, which could not be classified as a stream. Regional curves predict a bankfull width of 13.1' for this crossing based on drainage area of 1.13 square miles. Using the guidance of 2.2 x bankfull width for Type E streams, the NHDES Stream Crossing Rules compliant structure span would be 28.8'.

USFWS has been consulted and confirmed that the project area is in the range of the northern long-eared bat. Given that there is no clearing of suitable habitat proposed, it is assumed that this project will result in no effect to NLEB. The New Hampshire Natural Heritage Bureau (NHB19-3631) also reviewed the project area and concluded that there are no known records of protected species or their habitats in the vicinity of the project area.

An inventory of invasive plant species will occur during the Spring of 2020 and will be appropriately managed during construction according to the Department publication “Best Management Practices for the Control of Invasive and Noxious Plant Species.”

The Department is in process of submitting the project to the Division of Historical Resources for review and will follow necessary steps to satisfy applicable requirements of Section 106 of the National Historic Preservation Act.

Assuming that no increase in impervious surface area will be proposed, the project is not anticipated to result in a negative impact on water quality in the project area and therefore no permanent stormwater treatment would be required. A NPDES Discharge General Permit may be required if dewatering within the stream is required.

There are no prime wetlands in the vicinity of the project area and the project is not located within the protected corridor of any designated rivers. The project is not located near any waterbodies protected by the NH Shoreland Water Quality Protection Act.

C. Carucci provided a summary of the alternatives analysis to address the needs at this culvert, which include replacement with a fully compliant span bridge, replacement with a hydraulically sufficient box culvert, replacement in-kind and rehabilitation of the existing pipes, which is the Department’s preferred alternative.

A fully compliant design would be a 30’ span bridge, cost estimated at \$2,099,694. Funding and design time would require a delay in the start of construction of 3 – 5 years. Construction could be expected to take at least 1 season, with significant temporary widening on both sides of NH Route 9 to accommodate 2 lanes of traffic and phased construction. Approximately 900 LF of NH 9 pavement would be impacted by the traffic shifts for phased construction. Removal of the upstream storage would cause a significant increase in downstream flows and 100-year flood elevations. The chronic flooding location downstream would be made worse by the increased flows.

A hydraulic design was also considered, passing the 50-year storm without submerging the inlet. This would be a 6’ high x 8’ wide box culvert, embedded 24” below streambed. Cost for this option is estimated at \$1,243,458. Flooding, delay, and construction/traffic impacts would be similar to, but slightly less, than for the bridge option discussed above.

Replacement in-kind was also considered, with an estimated cost of \$1,006,948. Delay and impacts would be similar to the replacement options and would involve similar funding and scheduling constraints, excavation depths, and maintenance of traffic issues.

The preferred method of addressing these culverts before they fail is rehabilitation. The proposed design is rehabilitation with cured in place liners. The liner thickness is estimated at 5/8” to 3/4”. The inlet ends of the culverts would be shortened by about 12’, replacing the mitered ends with a more hydraulically efficient concrete headwall. The outlet ends would be shorted by 6’, replacing the miters with a concrete headwall.

The liners will conform to and maintain the existing corrugations, but will reduce the overall barrel roughness coefficient and improve capacity slightly. The combined increase in efficiency will prevent any significant increase in headwater elevation. No effect on FEMA maps or downstream conditions is anticipated. Due to the very flat (or negative) culvert slopes, outlet velocity increases will be less than 0.5 ft/s. Total crossing length will be shortened from about 102 LF to 84 LF. Cost for this option is estimated

at \$526,521. Duration of construction is estimated at 6 weeks, with no significant impact to traffic, utilities, or other resources.

Additional options for rehabilitation of the existing pipes using different materials were investigated but not selected as viable options. Access to the inlet will be directly from the edge of NH Route 9. A temporary access road will be required at the outlet. No clearing of trees >3" diameter is proposed. Any vegetation that is cut will be allowed to re-establish naturally. Water diversion will be through the one of the twin culverts while work is being performed on the other. All work will be within the existing ROW.

Anticipated total earth disturbance for the preferred rehabilitation alternative is 0.58 acres, including 11,300 square feet (SF) at the inlet and 13,750 SF at the outlet. Permanent wetland impacts associated with replacing the mitered ends of the pipes with headwalls would include 113 SF to the pond, 115 SF (34 LF) to the bank and 63 SF (13 LF) to the channel. Temporary wetland impacts associated with installation of BMPs, access and water diversion would include 1,020 SF to the pond, 1,680 SF to the bank and 1,753 SF to the channel.

C. Carucci concluded his presentation by requesting concurrence that the proposed work is consistent with Env-Wt 904.09(b) and 904.09(c) and that no mitigation be required due the fact that the square footage of impact to jurisdictional wetlands is under the 10,000 sf threshold and that the permanent impacts to stream channel and banks is associated with shortening both pipes from 102' to 84' and therefore restoring a total of 36' of stream channel.

Karl Benedict, NHDES Wetlands Bureau, stated that the Department's preferred alternative of rehabilitating the existing pipes with the cured-in-placed liner (slip-lining) is appropriate at this site. The work should be permitted as an Alternative Design according to the NHDES Stream Crossing Rules and a discussion of the potential for increased downstream flooding associated with the bridge and box culvert alternatives should be included in the Alternative Design Technical Report. He asked how much the elevation of the outlet will change by and if it would cause a perch. C. Carucci reiterated that the liner will raise the elevation of the outlet invert by approximately less than 1" and that this will not create a perch as the crossing is currently backwatered year round and will maintain this condition post construction. K. Benedict also inquired as to how the cofferdam for the clean water bypass system would be installed and whether the large temporary impact areas shown on the plans included area for this installation. C. Carucci confirmed that all BMPs and dewatering areas were included in the plans and impact area estimates. K. Benedict requested that the Alternative Design Technical Report include a detailed alternatives analysis and a discussion confirming that the outlet would remain in a backwatered state to ensure that there is no concern for aquatic organism passage.

Lori Sommer, NHDES Wetlands Bureau, requested clarification about the 0.58 acres of total disturbance and C. Carucci specified that this number reflects the entire project area earth disturbance for NPDES CGP calculations and that the actual areas of jurisdictional wetland impacts are much smaller, as detailed above, but that additional efforts will be made to reduce both wetland and overall impacts as the project is refined during the final design phase.

Sarah Large, NHDOT Bureau of Environment, asked if any riprap will be installed in the location that the pipes are being shortened. C. Carucci confirmed that some stone would be used for protection of the headwall foundations. Carol Henderson, NHFG, stated her support of the proposed alternative, especially given that there will be no perch at the outlet and that the cured-in-place liner will conform to the existing corrugations of the pipe. Amy Lamb, NH Natural Heritage Bureau, asked for clarification about how the capacity of the pipes will be increased despite the reduction in diameter. C. Carucci explained that for long culverts with low slopes, flow capacity is controlled by the roughness of the pipe instead of the inlet

opening area. Even though the liners will conform to the corrugations of the pipe, the material will still be smoother than the original metal and will therefore increase flow capacity.

Peter Steckler of The Nature Conservancy stated that the project area is not in a terrestrial crossing hotspot and therefore has no objections to the rehabilitation alternative. Representatives from the EPA the USACOE also confirmed that they had no additional concerns or objections to the project. L. Sommer stated that since the permanent impacts are associated with stream restoration due removing the mitered ends of the pipes that no mitigation would be necessary for the work as proposed.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Pittsfield, #2019-M316-3

Russ presented a project to replace a failed culvert on NH Route 107 in Pittsfield and to raise a section of the road. The proposal would replace the existing 15-inch corrugated metal pipe with an 18-inch reinforced concrete pipe. To accommodate the larger pipe, approximately 300 feet of a section of the road containing the new culvert would be raised one foot and then taper back to the existing road profile.

Adjacent to the project area on the east side of the road is the BECP Solid Waste District Facility, a transfer station and recycling center for the Towns of Barnstead, Chichester, Epsom, & Pittsfield. The solid waste facility maintains a fire pond on its property. The failed culvert acts as an overflow structure for the fire pond, allowing excess water to flow under westward under Route 107 to a large wetland. Because of its failed condition, seasonally high water tables cause the fire pond to overflow into Route 107, resulting in standing water in the road, icing over in winter, and potholes. The topography of the project area also indicates water in the fire pond can flow easterly through a different culvert on the BCEP property and drain in a northeasterly direction.

Russ also noted that the Wetlands Permit Planning Tool (WPPT) identified a Priority Resource Area (PRA) labeled “peatlands” in the large wetland on the west side of Route 107. He expressed concern regarding this designation because peatlands is not a type of jurisdictional area included in the definition of a PRA. According to Natural Community Systems of NH, 2ed, peatlands is a general term pertaining to 11 different natural communities comprised of bogs, fens, and peat swamp systems. Bogs are listed in the NHDES wetland rules as a type of PRA, but fens and peat swamp systems are not. Russ also noted that when Bureau of Environment personnel delineated the wetlands within the project area, they did not observe any bogs, and their soil testing did not identify any peat. It was agreed there will need to be follow-up discussions on this issue.

Anticipated wetland impacts were described as follows:

On the west side of Route 107, there will be 23 square feet of temporary and permanent impacts (PSS/EM1E) in a narrow band south of the culvert location, 254 square feet of temporary impacts (PSS/EM1E) at the culvert replacement site, and 238 square feet of temporary and permanent impacts (PSS/EM1E) in a narrow band north of the culvert location.

On the east side of Route 107, there will be 2,288 square feet of temporary and permanent impacts (PEM1E and PEM1E×ditch) in a strip between the road and a chain link fence along the fire pond. Total permanent impacts equal 1,991 square feet; total temporary impacts equal 812 square feet total combined impacts equal 2803 square feet.

Other issues: the US Fish & Wildlife Service IPaC tool identified northern long eared bats within the project area. This project does not include tree cutting and therefore is unlikely to impact bats. The NH Natural Heritage Bureau identified the smooth green snake, a State species of concern within the project area.

S.Large mentioned that the project impacts do not reach the mitigation threshold of 10,000 SF of permanent impacts to palustrine wetlands and therefore mitigation was not anticipated for this project. L. Sommer agreed that the threshold didn't appear to be met and therefore concurred no mitigation was required.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Allenstown-Pembroke, #40362

Julie introduced the project, which is the rehabilitation of Bridge #107/098 in Allenstown and Pembroke, NH. The bridge carries NH Route 28 over the Suncook River and was originally constructed in 1958. The bridge is a three-span structure, consisting of painted steel beams with a reinforced concrete deck. The bridge is immediately upstream of the Buck Street Dams, which were removed in 2011. The bridge was rehabilitated in the 1990's and included minor deck patch repairs, new bridge rail and curb, and new pavement and membrane.

The deck is in poor condition and the bridge is now on the State's Red List. To extend the life of the structure another 50 to 60 years, VHB completed an engineering analysis and determined a superstructure replacement while retaining the existing substructure as the most appropriate solution. Since the downstream dams were removed, water surface elevations dropped approximately 5 feet at the bridge, exposing deficiencies in the pier stem walls and the slope paving at the southern abutment.

Rehabilitation items include new beams, bearings, reinforced concrete deck, bridge curb and railing, expansion joints, approach slabs, pier collars, and riprap at the southern toe of abutment. Bridge width will match existing conditions, but a slight profile raise is anticipated due to slight variation in the cross-section geometry from the existing conditions.

Pete Walker discussed wetland impact plans, indicating significant features such as the Top of Bank (TOB) and Ordinary High Water (OHW). TOB was mapped within the project area and was determined to connect at the top of slope at abutments on both sides. Pete discussed proposed impacts, both temporary and permanent. Approximately 980 square feet of permanent impacts are anticipated, primarily associated with the extension of a rip-rap slope protecting the southern abutment. A small amount of permanent impacts would result from installation of pier collars to reinforce the existing piers. Temporary impacts are required to construct pier collars and install riprap. The temporary impacts at the southern abutment encompass a large area due to the proximity of the pier to the toe of slope. A water diversion structure, possibly sand bags, is anticipated at the southern abutment and pier 1. Construction access to the southern abutment is anticipated along the western side of the bridge. Temporary impacts to the northern pier are less than the

other pier since one side is within the ordinary high water and the other side is beyond. Access to the northern pier is anticipated along an existing access road within the Right-of-way (ROW).

No significant impacts are anticipated to resources, including Northern Long Eared Bat or Small Whorled Pogonia, and coordination with the USFWS has been completed. Section 106 consultation is nearing completion, with no archaeological concerns or affected historic properties. An effects memo is pending final submittal and acceptance.

VHB considers the riprap at the southern toe of slope to be self-mitigating to stabilize the existing granite slope paving and extend the life of the structure but is seeking concurrence. Additionally, due to the fact that the project is a rehabilitation, a geomorphic assessment has not been conducted and VHB is not planning to develop a formal stream crossing assessment, but would address Env-Wt 904.09(c). Pete Walker referred to email correspondence with Karl Benedict and Craig Rennie regarding the approach to the stream rules, but VHB would like concurrence on both the mitigation question, as well as the stream rules.

Sarah opened the forum up to questions and comments from participants, which was conducted in a roll call manner.

Rebecca Martin (NH DOT Bureau of Environment) had no further remarks, nor did Anthony Weatherbee, Jason Tremblay, or David Scott, representing the Bureau of Bridge Design.

Karl Benedict (NHDES) concurred with VHB's assumption that a geomorphic assessment is not required. He requested that VHB consider stream simulation at the extended riprap. Julie responded that the riprap would be placed to properly key in the stone. Pete Walker agreed that riprap must extend below OHW due to the reduced water levels, and that the rip-rap would not pose a barrier to aquatic organisms. However, VHB will consider embedding the rip-rap or adding some stream simulation material to the design. Karl asked if a Shoreland Permit is anticipated. Pete responded all work is within the ROW and therefore a Permit by Notification (PBN) is expected. Karl also asked for additional information regarding the water diversion, considering the location of the project. Julie explained that the river is relatively flat and shallow through this reach, with low velocities. In channel work is anticipated during low flows and appropriate diversion structures will be evaluated during final design and included in contract documents, as appropriate.

Lori Sommer (NHDES) agreed with VHB's assumption that the riprap is self-mitigating.

Carol Henderson (NH F&G) requested flattening the riprap at the toe of slope to ensure wildlife passage. Amy Lamb (NHHHB) noted that the Natural Heritage Bureau has no concerns - the swamp darter is present in this reach of the river. Carol Henderson indicated that impacts are not anticipated.

Rick Kristoff (USACE) noted the project needs to provide for adequate fish passage. Rebecca Martin noted that the Suncook River is classified as Essential Fish Habitat (EFH) under the National Oceanic and Atmospheric Administration's (NOAA) guidance unless it can be demonstrated that a natural barrier (not a dam) exists downstream. The river is therefore subject to EFH regulations.

Beth Alafat (EPA) had no questions.

Jean Brochi (EPA) had no questions.

Pete Steckler (Nature Conservancy) indicated the Suncook River has been identified as an important wildlife corridor based on TNC's "Connect the Coast" project. Pete would like to ensure that the project accommodate terrestrial wildlife. He suggested smoother substrate to lock in at the southern abutment toe, concurring with Carol Henderson's request.

VHB will evaluate details to provide smoother riprap at the southern abutment toe of slope and evaluate water diversion structures in further detail.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Deerfield, #24477

Julie Whitmore introduced the project, which is the replacement of Bridge #137/116 in Deerfield, NH. The bridge carries NH Route 107 over Freeses Pond, essentially bisecting the pond. Freeses Pond is the impoundment of the Lamprey River that enters the pond to the north and exits via a dam to the south. The bridge is a 13-foot-wide by 8-foot-tall corrugated metal culvert with mortar rubble masonry wingwalls and headwalls that was originally constructed in 1973. The downstream dam impounds flow and as indicated in both the winter and summer photos; water levels do not vary much seasonally. Therefore, the culvert functions more like an equalizer to maintain constant water surface elevations through the pond.

The culvert is in poor condition and must be replaced. Water levels coincide with the seam in the culvert, leading to corrosion at the weakest point in the structure. The most practical replacement option for this location is a 14-foot-wide by 9-foot-tall precast concrete box culvert. The box culvert will be buried with 6 inches of simulated stream infill and provides additional hydraulic capacity above ordinary high water to improve conveyance for larger storm events. Approach work is limited to the extent practicable, with no change in pavement area and slight improvements to guardrail berms and grading. Riprap will be provided at the inlet and outlet.

Pete Walker discussed wetland impact plans, indicating features such as the Top of Bank (TOB) and Ordinary High Water (OHW). Based on the current design, VHB expects less than 3,000 square feet of permanent impact in the bed and banks of the pond. Approximately 540 square feet of temporary impacts would be required to install cofferdams and riprap. The permanent impacts at the southwest approach are due to improved slope stability with new guardrail berms and 2:1 slopes.

Coordination regarding potential effects on the northern long eared bat and small whorled pogonia is ongoing. However, Pete noted that pogonia habitat is lacking, and tree clearing would be very minimal so actual impact to NLEB are not expected. Blanding's Turtle has been recorded in the project vicinity and VHB will consult with NH Fish and Game to address any concerns. The Section 106 consultation is ongoing. NHDHR has no archaeological concerns, but an historic inventory may be required on an adjacent property (Parcel 208-58).

VHB considers the riprap proposed to stabilize the proposed structure at the inlet and outlet to be self-mitigating, but is seeking concurrence. Additionally, since the culvert is located within an impounded resource, a stream geomorphic assessment is not appropriate. Based on guidance from NHDOT, the crossing will be treated as a wetland crossing rather than a stream crossing.

Sarah Large opened the forum up to questions from participants, which was conducted in a roll call manner.

Karl Benedict (NHDES) concurs with VHB's assumption that a geomorphic assessment is not required. Karl requested more information to understand Impact Area A. VHB clarified the plans were developed using the standard legend and Impact Area A is a permanent impact due to berm and slope improvements for the guardrail adjacent to the structure. VHB will provide a legend on subsequent presentations for clarity.

Due to technical difficulties, Lori Sommer (NHDES) was unable to offer comments. Pete suggested that VHB would coordinate with Lori following the NRAM. (*April 20th coordination with Lori summarized below*).

Carol Henderson (NH F&G) had no questions.

Amy Lamb (NHHHB) had no questions.

Rick Kristoff (USACE) had no questions. He indicated that EFH is not required for this project. (Note: Following the NRAM, Marc Laurin and Rebecca Martin confirmed that the Lamprey River is considered EFH and requested that VHB complete an EFH worksheet.)

Beth Alafat (EPA) had no questions.

Jean Brochi (EPA) had no questions.

Jamie Sikora (FHWA) had no questions.

Pete Steckler (Nature Conservancy) indicated this location has been identified as an important wildlife corridor by the TNC's Connect the Coast project. Pete asked about the proposed water diversion method, and suggested that if a water diversion pipe is needed, that it might be left in place to serve as a wildlife tunnel. Julie indicated the project will require cofferdams to remove the existing culvert and install the proposed culvert and that a pump around diversion via temporary pipe is anticipated. However, this diversion system will likely be installed above the roadway level and not buried, so it was not anticipated to serve as a permanent structure. Additionally, there is minimal headroom to install an adjacent permanent structure within the project limits. Pete S. suggested installing a tunnel south of the crossing based on the aerial. As Julie navigated to this approximate location, Pete W. recognized this location is outside the project limits and may not be practical to install.

Jason Tremblay and David Scott represented the Bureau of Bridge Design and had no questions.

VHB will evaluate wildlife access details and discuss with Bridge Design to determine if a structure can be included. VHB will also follow up with Lori Sommer regarding any additional NHDES concerns.

April 20, 2020 Telephone Conference with Lori Sommer, Pete Walker, and Julie Whitmore

Pete, Julie, and Lori teleconferenced Monday, April 20th to discuss mitigation. Pete indicated VHB's assumption is that the riprap aprons are self-mitigating to stabilize and protect the proposed culvert. Lori expressed concern over fill in the pond and requested additional information to clarify. Julie described the project intention – replace the existing structure with a buried invert precast box culvert that matches existing inverts. Riprap was sized according to standard practice based on hydraulic analysis. Additional impacts to Area A are due to slope improvements to stabilize the guardrail berm and embankment. Lori asked if the dam owner is known and if coordination is anticipated. Lori also asked whether a Grant of Right might be needed due to the placement of fill in the pond. Pete and Julie noted the dam is owned by

the Town of Deerfield and that although coordination is anticipated to conduct work, water surface elevations are not anticipated to be dropped for construction. While Right-of-Way impacts are anticipated, the project does not propose fill for the purpose of making land. Rather, the placement of fill is intended to restore an eroded slope, and would not affect property boundaries. Therefore, a grant of right is not anticipated. Temporary steel sheet piling is assumed to be installed for construction and temporary impacts H and G indicate the anticipated locations upstream and downstream. After discussion, Lori agreed with VHB in the assumption the riprap is self-mitigating and expressed no other concerns.

This project has not been previously discussed at the Monthly Natural Resource Agency Coordination Meeting.

Salem-Manchester, #10418F (IM-0931(205))

Marc Laurin went through a PowerPoint presentation on the status of the South Road Mitigation Site #15 in Londonderry. This 24.4 acre property was developed as a mitigation creation/preservation area as part of a mitigation compensation package for the I-93 widening wetland impacts. The required monitoring of the mitigation area has been completed and the site has been determined to have achieved success with its intended design and the functions it sought to create. The Town of Londonderry Conservation Commission has requested transfer of the property from DOT to the Town for conservation purposes. The Department is processing this as a Surplus Land request.

Phil Miles summarized the steps that the Department would undergo to dispose of the site as a surplus property. The site would be appraised and the Town of Londonderry would purchase it at its fair market value. Marge Badois stated that the Londonderry Conservation Commission was not under that impression and had assumed that this would be handled as a transfer from DOT to the Town. Phil Miles explained that in order to just transfer the property, rather than a fair market value purchase, the Conservation Commission would need to send another letter to the Bureau of ROW administrator Steve LaBonte, with their reasons asking specifically for this consideration. Jamie Sikora stated that FHWA would need to approve this request in order to protect the public interest regarding the use of public funds.

A general discussion on the current deed restrictions and who would/could hold a conservation easement ensued. Marc stated that DOT has placed a Deed Restriction on the site. As requested, subsequent to the meeting Marc provided a copy to Marge and Susan Malouin of the Conservation Commission. He also provided a copy to Carol Henderson, as well as the mitigation site's final mitigation monitoring report. The Conservation Commission also mentioned extending a trail to the property from Kendall Pond and through their other conservation land on South Street.

Lori Sommer stated that she would want to be involved in determining the most appropriate method of placing easements on the property. A stewardship management plan would need to be developed by the Town, including how the trail would be used. Lori expressed concerns that the site is designated as mitigation and appropriate buffers to the wetland resources would need to be retained. Carol also expressed concerns with maintaining the turtle habitat/protection measures of the site. Rich Kristoff will also want to check the Corps' permit language to assure that their appropriate guidelines are being followed. Pete Steckler mentioned that DNCR (formerly DRED) is a steward on Londonderry's Kendall Pond conservation land, so they may be a potential resource to get involved in the management or stewardship of the site.

DOT's Bureau of Right-of-Way and Marc will continue to coordinate on the details of the property transfer. DOT will discuss with Lori and the Conservation Commission further details of the transfer process and easement requirements.

This project in this context of mitigation land transfer has not been previously discussed at the Monthly Natural Resource Agency Coordination Meeting.

Statewide, #41915 (X-A004(799))

The NH Department of Transportation (NHDOT) Statewide #41915 Project involves stabilization efforts at seven locations in Grafton County to address scour issues and prevent additional scouring or undermining of the existing crossings, and, where feasible, increase aquatic organism passage and stabilize bank and streambed areas through the crossing. The seven locations include: NH Route 118 over Bucks Brook in Dorchester; River Road over the South Branch Baker River in Dorchester; Millbrook Road over Mill Brook located in Landaff; NH Route 10 over Grant Brook located in Lyme; NH Route 25 over Halls Brook in Rumney; NH Route 175 over Mill Brook in Thornton; and Interstate 93 over Eastman Brook in Woodstock. Kimberly Peace, Sean James, and Joanne Theriault from Hoyle Tanner presented.

J. Theriault gave an overview of the project goals and then reviewed each bridge individually. In each location, scour stabilization measures will be installed to protect the existing infrastructure. Work will not be conducted on the bridge, wingwalls or abutments. Plans provided show approximate impact areas and locations of construction access routes. Survey/topo shown on plans has been created using LIDAR along with limited ground survey in some locations. In all locations, unless stated otherwise, the intent is to excavate the streambed to the required depth, install riprap to match existing elevations and key into the upstream and downstream profiles. Impacts to Northern long-eared bat summer habitat will need to be addressed at all locations, and Essential Fish Habitat (EFH) analysis for Atlantic salmon will need to be addressed at all but one location (Lyme 075/106). A Categorical Exclusion for the project is being developed that will address these issues, along with some potential Section 6(f) concerns in Dorchester and Section 106 and 4(f) concerns in Lyme. Each location will undergo state environmental permitting separately, and all locations are Tier 3 stream crossings with watersheds greater than or equal to 640 acres per Env-Wt 904.05.

NH Route 118 over Bucks Brook in Dorchester

Proposed installation of Class V stone on outlet side only for approximately 1,300 sq ft of streambed and bank impact. S. James noted that the streambed will be excavated approximately 3' deep so that the stone will be installed at existing grade, over a geotextile layer, with no change in streambed profile.

L. Sommer: Is the culvert perched? S. James: No.

R. Crickard: The plans for the next meeting should indicate more precise locations of riprap installation. Hoyle, Tanner agreed.

L. Sommer: The linear feet of channel impact would be used to calculate mitigation, and are you proposing to cover the bank areas with native or original streambed material?

K. Benedict: DES requests covering riprap to fill the voids, using existing stone where possible, and presenting a good alternatives analysis. The result should be a stream simulation that matches upstream and downstream conditions where possible, but if the hydrology of the stream would result in loose materials washing downstream, maybe just fill the voids. The end result should be a stabilized base to sit below the streambed simulation materials.

S. James: In this location, there is high enough velocity that the native material would wash downstream. Hoyle, Tanner agrees to look into filling the riprap voids.

K. Benedict: Look at the wetlands rules Env-Wt 514 to address the requirements for bank stabilization, specifically how high up the banks the riprap should be. Can some portion of the bank be left vegetated? How will impacts be minimized? The permit application will need to include analysis of stream velocities and flood elevations.

C. Henderson: What about the NHNHB Datacheck results?

J. Theriault: There are no species identified in this location, and per prior discussion with K. Benedict, plans with impacts identified will be sent to NHF&G for their review prior to permit submittal.

River Road over the South Branch Baker River in Dorchester

Proposed installation of Class IX stone on outlet and inlet sides for approximately 6,550 sq ft of streambed and bank impact. S. James noted that the streambed will be excavated approximately 6' deep so that the stone will be installed at existing grade, over a geotextile layer, with no change in streambed profile. The northwest bank will contain some armoring to provide stability where it currently erodes.

K Benedict: Similar concerns as prior crossing. Additionally, has there been thought of deflecting the energy using design instead of bank armoring?

S. James: Those options can be examined.

K. Benedict: Will the stream be crossed with equipment to work on the opposite bank, or will there be a second access on the west side?

S. James: The site has limited access options, so work will occur on the opposite (west) side from the access road while the stream is diverted on that side. The diversion and stream flow will then reverse, and work will occur on the east side closer to the access road.

Millbrook Road over Mill Brook located in Landaff

Proposed installation of Class VII stone on outlet side only for approximately 1,250 sq ft of streambed and bank impact along with repairs to the stone masonry wall on the northeast side. S. James noted that the streambed will be excavated approximately 4' deep so that the stone will be installed at existing grade, over a geotextile layer, with no change in streambed profile.

K. Benedict: Same concerns as prior crossings.

NH Route 10 over Grant Brook located in Lyme

Proposed installation of Class V stone on the outlet and inlet sides for approximately 3,500 sq ft of streambed and bank impact. S. James noted that the streambed will be excavated approximately 3' deep so that the stone will be installed at existing grade, over a geotextile layer, with no change in streambed profile. The stream has aggraded in the southeast side through the crossing.

A. O'Sullivan: Will the aggraded material be removed?

S. James: It isn't planned to be removed since the stream through the crossing is in a steady-state, the aggradation has been stabilized, and the focus is on protection of the infrastructure.

K. Benedict: Current and energy deflection could also be examined in this location to direct energy back to the center of the channel.

C. Henderson: NHF&G would like to examine this more closely as it relates to fish passage.

NH Route 25 over Halls Brook in Rumney

Proposed installation of stone on the outlet for approximately 4,500 sq ft of streambed and bank impact along with grout filled nylon bags at the wingwalls where they have been undermined. S. James noted that the depth and type of stone is still being investigated and will be based on final survey data to address the scour hole and perched outlet.

C. Henderson: How will the perched outlet be addressed?

S. James: Stone will be added to fill the scour hole and regrade the streambed so that it will key into the downstream elevation. In this location the streambed will not be excavated unless it is determined during final survey.

K. Benedict: Consider using a grade control structure.

S. James: The issue with grade control is that we encounter resistance during permitting due to reduction in aquatic organism passage. If DES could provide suggestions that could satisfy NHF&G we would review them for potential use in this location.

K. Benedict agreed and said the new crossing should be an improvement for fish passage.

J. Theriault: This location has wood turtle habitat nearby but just outside of the proposed work areas. Once impacts have been determined, coordination with NHF&G will occur to determine avoidance and minimization measures.

NH Route 175 over Mill Brook in Thornton

Proposed installation of Class VII stone on the outlet and inlet sides for approximately 5,650 sq ft of streambed and bank impact. This location will have two access routes. S. James noted that the streambed will be excavated approximately 4' deep so that the stone will be installed at existing grade, over a geotextile layer, with no change in streambed profile.

P. Steckler: What is the pond upstream and north of the site? Is it connected to the stream crossing?

S. James: We are aware of this water feature but are not sure whether it is natural or manmade. The water feature / pond is outside of the proposed work areas, but Hoyle, Tanner will review the mapping of the area to determine any potential connection between the pond and the river.

NH Route 175 over the Pemigewasset River in Woodstock

Proposed installation of A Jacks or an armor matrix on the outlet side within the streambed and Class IX stone to be placed on the banks for approximately 7,100 sq ft of streambed and bank impact. There is steel sheeting in the river on the downstream side that will be removed in order to install the armor matrix.

K. Benedict: DES will want to review the specs of the armor matrix.

S. Large: DOT has proposed and permitted this product and understands DES will require cross-section profiles as part of the permit for review. The impacts will be shown as permanent for the wetland permits. Adding native material or infill may not be feasible due to the high water velocity here. Hydraulic analysis will be provided with the application.

A. Lamb: Due to the way this project was drawn on the DataCheck tool, it just missed a “hit” for Northern Long-Eared Bat Hibernaculum. This record is just over 0.6 mile from impact areas.

Project Summary Discussion

S. Large: Crossing designs will need to be reviewed for consistency with the wetland rules regarding bank stabilization.

K. Benedict: In general, each permit application will need to address avoidance and minimization, alternative designs, stream simulations and materials, and plans will need to show cross-sections, erosion controls and water diversion. It would be helpful for the next meeting to have the limits of existing riprap shown. For the crossings that are perched, presentation should include longitudinal profiles. Consider adding a low flow channel through the center of the stream simulation to allow for continual hydraulic connectivity.

P. Steckler agreed with the need to design low flow channels into these projects.

K. Benedict: Information should also be provided to quantify linear feet of impacts between stream bed and banks, and DOT should consider and plan for timing of work to minimize impacts to fish populations.

S. Large: A meeting should be held between K. Benedict and DOT before the next NR Meeting.

S. James: Requested clarification on the amount of detail for water diversion, since contractor means and methods allow the to modify what we propose. K. Benedict stated that DES can condition the permit for the contractor to provide a final dewatering plan with DES given 2 weeks to review it before start of construction, and that his review is to ensure the impacts from dewatering are contained in the permit and that the dewatering plan is feasible.

There were no other concerns stated by the meeting attendees.

It was decided that a second NR Meeting should be held before submitting permit applications.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.